

Appl. No. 10/055,492
Amdt. dated February 09, 2004
Reply to Office Action of September 10, 2003

Docket No. A01125

REMARKS/ARGUMENTS

Claims 1-5 and 11-12 remain in this application.

Claims 6-10 are withdrawn, pursuant to Applicants' election of Group 1 (claims 1-5) with traverse, in response to the restriction requirement stated by the Examiner in the above-identified Office Action and in the telephone conversation between the Examiner and Mr. Gregory Hill on June 11, 2002.

Claims 11 and 12 are new.

Amendments: Lack of New Matter

Applicants submit that the forgoing claim amendments do not introduce new matter into the present application, as discussed in further detail herein below.

The roman numeral "ii" in claim 4 has been changed to "iii" to correct an obvious typographical error. The definition of percent as a measure of water solubility that has been added to claims 1 and 4 is based on the specification, for example in the heading in Table 1, where the units of "water solubility" are given as "grams per 100 grams of water." Persons of ordinary skill in the art will recognize that grams of solute per 100 grams of water is exactly the same measure as weight % of solute based on the weight of water.

The exclusion of chain transfer agents, as recited in amended claims 1 and 4, is based on description and examples in the specification. The emulsion polymer described in Example 1 was made without the use of chain transfer agent. Further, the specification states on page 7, lines 7-9: "Chain transfer agents such as, for example, alkyl mercaptans may be used in order to moderate the molecular weight of the polymer." This statement, especially in view of Example 1, clearly means that, in some embodiments of the present invention, chain transfer agents are not used.

The amount of nonionic surfactant of 3-8%, as recited in new claims 11 and 12, is based on disclosures in the specification on page 8, line 7; on page 10, line 21; and in the Examples (Coating 1 and Coating 2 of Example 2). The method of calculating the percentage (ratio of dry weight of nonionic surfactant to dry weight of emulsion polymer)

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is recited on page 8, lines 8-9. Those of ordinary skill in the art will recognize that "solids" is a synonym for "dry weight."

The upper limit of 8% for the amount of nonionic surfactant, as recited in new claims 11 and 12, is based on the ranges disclosed in the present specification on page 8, line 7. The lower limit of 3% is based on the amount of nonionic surfactant used in Coating 1 and Coating 2. For example, Coating 2 uses 213.6 grams of emulsion from Example 1, which has solids of 35.7% (p. 12, line 8); thus coating 2 uses 76.3 grams of dry weight of polymer. Coating 2 also uses 4.3 grams of aqueous solution of Triton™ X-405, which has solids of 70%, so that 3.0 grams of dry weight of Triton™ X-405 are used. Thus, in Coating 2, the ratio of dry weight of Triton™ X-405 to dry weight of polymer is 3.0/76.3, or 3.94%. By the same method, in Coating 1, the ratio of dry weight of Tergitol™ 15-S-40 to dry weight of polymer is 2.98/73.5, or 4.05%. By these Examples, the specification shows that levels of nonionic surfactant of at least 3% are contemplated. This minimum is then combined (as described in the specification on p. 10, line 21) with the disclosed maximum of 8% to arrive at the claimed range.

Claim Objection

In the above-identified Office Action, the Examiner objected to claim 4 because of the second occurrence of "(ii)." The above amendment to claim 4 addresses this objection.

Claim Rejections - 35 USC § 112

In the above-identified Office Action, the Examiner rejected claims 1-5, stating that the phrases "water solubility of less than 8%" and "water solubility of at least 8%" constitutes indefinite subject matter. The above amendments to claims 1 and 4 specify the definition of percent solubility that is meant in the claims. Applicants submit that amended claims 1-5 are definite.

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Claims 1-5: rejection under 35 USC §102(b) over Rokowski

In the above-identified Office Action, the Examiner rejected claims 1-5 under 35 USC §102(b) as being anticipated by US 5,534,310 (Rokowski). Applicants respectfully assert that the present invention, as recited in amended independent claims 1 and 4, is novel over Rokowski.

Rokowski discloses coatings that involve the use of a latex polymer (col. 1, line 60), which is disclosed to have a peak molecular weight between 10,000 and 200,000 (col. 2, line 15). Rokowski teaches that polymers with higher molecular weight will not achieve the desired adhesion to chalky surfaces (col. 5, lines 50-52). Further, Rokowski teaches that chain transfer agents are used "for purposes of regulating the molecular weight of the latex polymer being formed" (col. 8, lines 14-15). Specifically, Rokowski teaches as follows (col. 8, lines 42-46):

The latex polymer having the peak molecular weight in the desired range described earlier is achieved by utilizing 0.1% to 2%, preferably 0.25% to 1.5%, and most preferably 0.4% to 1.0% of the chain transfer agent, based on the total latex polymer weight.

Overall, then, Rokowski teaches that polymer molecular weight less than 200,000 is critical to his invention and that the polymer molecular weight "is achieved" by the use of chain transfer agent. Clearly, Rokowski teaches that the use of chain transfer agent is an essential feature of his invention.

In contrast to the polymers taught by Rokowski, the polymers used in the present invention, as recited in amended independent claims 1 and 4, are made without the use of chain transfer agents.

In sum, then, Rokowski teaches polymers that are made using chain transfer agents, while the polymers of the present invention, as recited in amended independent claims 1 and 4, are made without the use of chain transfer agents. Therefore, Applicants respectfully assert that the polymers of the present invention, as recited in amended independent claims 1 and 4, are distinct compositions from the polymers disclosed by Rokowski. Consequently, Applicants respectfully submit that the compositions of the present invention, as recited in amended independent claims 1 and 4, are novel over

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Rokowski. Additionally, because claims 2, 3, and 5 are dependent on either claim 1 or claim 4, the present invention as recited in claims 2, 3, and 5 is also novel over Rokowski, for the same reasons.

Claims 1-5: rejection under 35 USC §103(a) over Rokowski

In the above-identified Office Action, the Examiner rejected claims 1-5 under 35 USC §103(a) as being obvious in view of US 5,534,310 (Rokowski). Applicants respectfully assert that the present invention, as recited in amended independent claims 1 and 4, is not obvious in view of Rokowski.

As demonstrated herein above, Rokowski teaches that, in order to achieve adhesion to chalky surfaces, a coating must use a polymer made with chain transfer agents. Therefore, Rokowski teaches away from the use of polymers made without chain transfer agents.

The present invention, as recited in amended independent claims 1 and 4, involves polymers made without the use of chain transfer agents. Because Rokowski teaches away from the use of such polymers, Applicants respectfully assert that the present invention, as recited in amended independent claims 1 and 4, is not obvious in view of Rokowski. Additionally, because claims 2, 3, and 5 are dependent on either claim 1 or claim 4, the present invention as recited in claims 2, 3, and 5 is also not obvious in view of Rokowski, for the same reasons.

New Claims 11 and 12 in view of Rokowski

Because new claims 11 and 12 are dependent on amended independent claims 1 and 4, Applicants respectfully submit that they are therefore novel and non-obvious in view of Rokowski. Additionally, Applicants assert that the feature regarding the amount of nonionic surfactant recited in new claims 11 and 12 provides an additional reason why new claims 11 and 12 are both novel and non-obvious in view of Rokowski.

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In Rokowski, the only reference to nonionic surfactant is in Rokowski's Example 8, in which a series of coatings are prepared using Triton™ X-405. In order to assess the amount of Triton™ X-405 used by Rokowski, Applicants examine the ratio of dry weight of Triton™ X-405 to the dry weight of polymer, which is the ratio used to specify the amounts of nonionic surfactant recited in the present claims. In Rokowski's Example 8, the amount of Triton™ X-405 is 0.8 grams; since Triton™ X-405 is 70% solids, the dry weight of Triton™ X-405 is 0.56 grams. The ratios of dry weight of X-405 to dry weight of polymer in Rokowski's Example 8 are as follows:

- Latex IV is 44.7% solids (col. 13, line 63). Therefore, 495.4 grams of Latex IV, as used in Example 8, yields 221.4 grams of dry weight of polymer. Thus the ratio of dry weight of X-405 to dry weight of Latex IV is $0.56/221.4 = 0.25\%$.
- Similarly, the ratio of dry weight of X-405 to dry weight of Latex V (44.9% solids, col. 14, line 29) is $0.56/222.2 = 0.25\%$.
- Similarly, the ratio of dry weight of X-405 to dry weight of Latex VI (44.6% solids, col. 14, line 65) is $0.56/222.8 = 0.25\%$.

In sum, the only teachings Rokowski makes regarding the use of nonionic surfactant are the above three formulations, all of which use dry weight ratio of nonionic surfactant to dry weight of polymer of 0.25%. Thus, Rokowski makes no teaching of the use of nonionic surfactants at higher levels, and he makes no suggestion that higher levels of nonionic surfactant might be useful. In contrast, the levels of nonionic surfactant recited in new claims 11 and 12 are more than ten times higher than the amount taught by Rokowski. Therefore, Applicants respectfully submit that the invention recited in new dependent claims 11 and 12 are both novel and non-obvious in view of Rokowski.

Conclusion

In view of the foregoing amendments and arguments, Applicants respectfully request the Examiner to reexamine the claimed subject matter, to withdraw the rejections of the claimed subject matter, and to allow claims 1-5 and 11-12 at this time. If,

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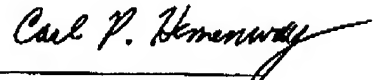
however, there remain any open issues which the Examiner believes can be resolved by a telephone call, the Examiner is cordially invited to contact the undersigned agent.

An extension fee of \$420 is believed to be due in connection with the submission of this Amendment. A Petition for Extension of Time accompanies this Amendment and provides for the payment of the aforesaid fee. No additional fees are believed to be due; however, if any such fees, including petition or extension fees, are due, the Commissioner is hereby authorized to charge them, as well as to credit any overpayments, to Deposit Account No. 18-1850.

Respectfully Submitted,

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